

Bard Access Systems, Inc.  
Sherlock 3CG\* Tip Confirmation System (TCS)  
Traditional 510(k) Premarket Notification

MAR 19 2012

**510(k) Summary**  
**21 CFR 807.92**

**Sherlock 3CG\* Tip Confirmation System**

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**General Provisions**

Submitter Name: Bard Access Systems, Inc.  
Submitter Address: 605 North 5600 West  
Salt Lake City, UT 84116  
  
Contact Person: Henry Boland  
Regulatory Affairs Specialist  
henry.boland@crbard.com  
801.522.5000 ext. 5428  
801.522.5425 fax  
  
Date of Preparation: 22 December 2011

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**Subject Device**

Trade Name: **Sherlock 3CG\* Tip Confirmation System**  
  
Classification Name: 21 CFR 880.5970 - Class II  
LJS - Percutaneous, implanted, long-term  
intravascular catheter

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**Predicate Device**

Trade Name: Sapiens\* Tip Confirmation System  
  
Classification Name: 21 CFR 880.5970 - Class II  
LJS - Percutaneous, implanted, long-term  
Intravascular catheters  
  
Premarket Notification: K112744, concurrence date 20 October 2011  
  
Manufacturer: Bard Access Systems, Inc.

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**Predicate Device**

Trade Name: Sherlock 3CG\* Tip Positioning System  
  
Classification Name: 21 CFR 880.5970 - Class II  
LJS - Percutaneous, implanted, long-term  
Intravascular catheters  
  
Premarket Notification: K091324, concurrence date 07 August 2009  
  
Manufacturer: Bard Access Systems, Inc.

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**Device Description**

The **Sherlock 3CG\* TCS** is indicated for guidance and positioning of PICCs during insertion and placement. The **Sherlock 3CG\* TCS** provides real-time catheter tip location information by using passive magnet tracking and the

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	<p>patient's cardiac electrical activity (ECG). The <b>Sherlock 3CG*</b> TCS displays the location of the PICC tip using a magnetic stylet and magnetic sensors. The <b>Sherlock 3CG*</b> TCS also displays ECG waveforms received from the patient's skin (baseline ECG) and from the tip of the catheter (intravascular ECG) on the graphical user interface.</p>				
<b>Indications for Use / Intended Use</b>	<p>The <b>Sherlock 3CG*</b> Tip Confirmation System (TCS) is indicated for guidance and positioning of Peripherally Inserted Central Catheters (PICCs). The Sherlock 3CG TCS provides real-time PICC tip location information by using passive magnet tracking and the patient's cardiac electrical activity (ECG). When relying on the patient's ECG signal, the Sherlock 3CG TCS is indicated for use as an alternative method to chest X-ray and fluoroscopy for PICC tip placement confirmation in adult patients.</p> <p>Limiting but not contraindicated situations for this technique are in patients where alterations of cardiac rhythm change the presentation of the P wave as in atrial fibrillation, atrial flutter, severe tachycardia, and pacemaker driven rhythm. In such patients, who are easily identifiable prior to catheter insertion, the use of an additional method is required to confirm PICC tip location.</p>				
<b>Technological Characteristics</b>	<p>Technological characteristics of the subject <b>Sherlock 3CG*</b> TCS are equivalent with respect to the basic system design and function to that of the predicate devices, Sapiens* Tip Confirmation System and Sherlock 3CG* Tip Positioning System. Differences do not raise any new questions regarding safety and effectiveness.</p>				
<b>Safety &amp; Performance Tests</b>	<p>Verification and validation activities were designed and performed to demonstrate that the subject <b>Sherlock 3CG*</b> TCS met predetermined performance specifications. The following standards in conjunction with in-house protocols were used to determine appropriate methods for evaluating the performance of the device:</p> <table> <tr> <td>IEC 60601-1:1988/1991/1995</td><td>Medical Electrical Equipment – Part 1: General Requirements for Safety</td></tr> <tr> <td>IEC 60601-1-2:2007</td><td>Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests</td></tr> </table> <p>The subject device met all pre-determined acceptance criteria and demonstrated substantial equivalence as compared to the predicate device.</p>	IEC 60601-1:1988/1991/1995	Medical Electrical Equipment – Part 1: General Requirements for Safety	IEC 60601-1-2:2007	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
IEC 60601-1:1988/1991/1995	Medical Electrical Equipment – Part 1: General Requirements for Safety				
IEC 60601-1-2:2007	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests				
<b>Summary of Substantial Equivalence</b>	<p>Based on the indications for use, technological characteristics, and safety and performance testing, the subject <b>Sherlock 3CG*</b> TCS met the minimum requirements that are considered adequate for its intended use and is substantially equivalent in design, materials, principles of operation and indications for use to the predicate devices, Sapiens* Tip Confirmation System and Sherlock 3CG* Tip Positioning System.</p>				



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Room -WO66-G609  
Silver Spring, MD 20993-0002

Mr. Henry Boland  
Regulatory Affairs Specialist  
C.R. Bard, Inc.  
605 North 5600 West  
Salt Lake City, Utah 84116

MAR 19 2012

Re: K113808  
Trade/Device Name: Sherlock 3CG™ Tip Confirmation System  
Regulation Number: 21 CFR 880.5970  
Regulation Name: Percutaneous, Implanted, Long-Term Intravascular Catheter  
Regulatory Class: II  
Product Code: LJS  
Dated: December 22, 2011  
Received: December 23, 2011

Dear Mr. Boland:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

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Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to <http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOffices/ucm115809.htm> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,



Anthony D. Watson, B.S., M.S., M.B.A.  
Director

Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

K113808

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Sherlock 3CG\* Tip Confirmation System (TCS)  
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### Indications for Use Statement

510(k) Number (if known): \_\_\_\_\_

Device Name: **Sherlock 3CG™ Tip Confirmation System**

#### Indications for Use:

The Sherlock 3CG™ Tip Confirmation System (TCS) is indicated for guidance and positioning of Peripherally Inserted Central Catheters (PICCs). The Sherlock 3CG TCS provides real-time PICC tip location information by using passive magnet tracking and the patient's cardiac electrical activity (ECG). When relying on the patient's ECG signal, the Sherlock 3CG TCS is indicated for use as an alternative method to chest X-ray and fluoroscopy for PICC tip placement confirmation in adult patients.

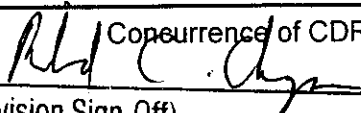
Limiting but not contraindicated situations for this technique are in patients where alterations of cardiac rhythm change the presentation of the P wave as in atrial fibrillation, atrial flutter, severe tachycardia, and pacemaker driven rhythm. In such patients, who are easily identifiable prior to catheter insertion, the use of an additional method is required to confirm PICC tip location.

Prescription Use   X    
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)



Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-Off)

Division of Anesthesiology, General Hospital  
Infection Control, Dental Devices

510(k) Number:   K 113808